

# Energy I-Corps

## Cohort 5 | Spring 2017

*Wednesday, February 15 – Thursday, April 20, 2017*

*Golden, Colorado – Webinar – Denver, Colorado*

### Materials:

- The Startup Owner's Manual – Steve Blank
- Business Model Generation – Alexander Osterwalder

### At-a-Glance Schedule

<b>Kickoff Meeting</b> WebEx Session	Wednesday, February 15, 12:00 – 2:00 pm
<b>Welcome and Program Kickoff</b> The Golden Hotel Golden, CO	Tuesday, February 21, 8:00 am - 9:00 pm
<b>All day workshops</b> The Golden Hotel Golden, CO	Wednesday, February 22, 7:15 am - 9:30 pm Thursday, February 23, 7:15 am - 9:00 pm Friday, February 24, 7:45 am - 5:00 pm
<b>WebEx sessions</b>	Wednesdays, 3/1, 3/8, 3/15, 3/22, 3/29, 4/5, 4/12 12:00 – 2:00 pm
<b>All day workshops and final presentations</b> Denver, CO	Tuesday, April 18, 7:45 am - 9:00 pm Wednesday, April 19, 7:30 am - 8:30 pm Thursday, April 20, 7:45 am – 2:30 pm

**\*\*ALL TIMES LISTED THROUGHOUT THE SYLLABUS ARE IN MOUNTAIN TIME**

### About Energy I-Corps – Creating Market Pathways for Laboratory Research

The Energy I-Corps program is a specialized training curriculum intended to:

- Increase the number of national laboratory-developed technologies that are transferred into commercial development or industry agreements;
- Train national laboratory researchers to better understand the commercialization process and private sector needs; and
- Transform national laboratory culture to value commercialization and entrepreneurial activities.

Administered by the U.S. Department of Energy's (DOE's) Office of Energy Efficiency and Renewable Energy, Energy I-Corps is a new model of engagement as a part of the Lab Impact Initiative. In addition to Energy I-Corps, the Lab Impact Initiative utilizes the Small Business Voucher and Technologist-in-Residence programs to increase and enhance laboratory-private sector relationships, streamline access to national laboratory capabilities, and demonstrate the value of laboratory-developed science and technology.

## **Detailed Course Schedule and Syllabus**

*Note - This curriculum requires in-depth preparation and significant effort outside of the laboratory and outside of the classroom. Please review the syllabus carefully for presentation assignments and recommended videos and chapters for each module.*

**Assignments** are listed immediately prior to the **Detailed Session Schedule** in the following pages. **PLEASE** review the syllabus in its entirety **prior** to beginning the course and plan to make use of the available videos and textbook readings in order to complete your assignments. **All assignments should be completed prior to that day's session.**

### **Program Requirements**

Attend, as a team, each of the in-person and online training sessions. It is imperative that each team member commit to class time in addition to customer discovery interviews and follow-up on LaunchPad Central each week. Time management will be critical to successfully navigating the demanding Energy I-Corps Program schedule while staying on track with your research projects.

### **Milestones**

- Attend all in-person sessions and participate in all workshops and team presentations
- Attend all web-based sessions and participate in group discussions and team presentations
- Complete baseline and post-training surveys
- Attend graduation session and participate in team presentations
- Meet with your lab's Tech Transfer/Commercialization Office before, during, and after program

### **Deliverables**

- Daily/Weekly presentation assignments as detailed in the syllabus
- Capstone team presentation that incorporates learnings from the course
- Graduation presentation (see syllabus assignment for details)
- 1-2 minute team video (see syllabus assignment for details) to be shown at graduation
- Key Takeaways Report for DOE (template will be provided)
- Interviews and BMC iterations entered into LaunchPad Central
- Peer feedback on team presentations in LaunchPad Central
- Conduct Office Hours with faculty for targeted team feedback

## Tools

- **Business Model Canvas (BMC)** – a BMC will be available in LaunchPad Central (see next bullet)



- **Launch Pad Central (LPC)** – [www.launchpadcentral.com](http://www.launchpadcentral.com) - Throughout this program, you will be using LaunchPad Central in order to track your progress. In this tool, you will be able to give other teams peer feedback, document all of your customer interviews, receive feedback from the teaching team, update your business model canvas, and access all of the lectures for the course.
- **Videos** - These can be found in LPC under the Resource Hub. There are many, but most do not exceed 3-5 minutes in length, and they will be a valuable resource as you begin your customer discovery process and fill out your BMC. Specific videos will be assigned at various points throughout the syllabus, but you should consult them as often as needed as a refresher on course content.
- **Steve Blank's website** - [www.steveblank.com](http://www.steveblank.com) - There is an incredible amount of information on Steve's page. As the father of the Lean Launchpad model and the NSF I-Corps training, we will refer to Steve's books and website during Energy I-Corps. Please become familiar with his webpage and LinkedIn materials.
- **Webinars** – Webinars will be used for the two course preparation sessions prior to the program kickoff, as well as the mid-session weekly team presentations. You will receive webinar login instructions from the Energy I-Corps Node prior to the start of the course.
- **Books** – Please be sure to bring **The Startup Owner's Manual** and the **Business Model Generation** books to the kickoff event.

## Cohort 5 Faculty Team

### Aaron Crumm

Founder

Adaptive Materials

[aaron.crumm@gmail.com](mailto:aaron.crumm@gmail.com)



Dr. Aaron Crumm – Founder, Adaptive Materials Inc. Aaron Crumm’s PhD work at the University of Michigan led to Ultra Electronics, Adaptive Materials, Inc. (AMI) becoming an alternative energy market leader. Crumm’s simple, yet radical, business proposition was to develop a portable solid oxide fuel cell system that ran off of readily available fuel. Crumm’s work has attracted more than \$50 million in contracts to support the growth of AMI. His success in leveraging research grants as part of AMI’s business acceleration strategy was integral to the company’s ability to remain privately held and focused on fuel cell product development. The company was acquired by defense industry giant Ultra Electronics in 2010. AMI has been recognized for its dynamic growth with Ann Arbor SPARK FastTrack, Inc. 5,000, and Inc. 100 Energy Company awards. Aaron Crumm has also individually recognized as an entrepreneur with multiple awards including Executive of the Year in 2011. Prior to founding Adaptive Materials, Crumm gained insight into electric power generation as a nuclear engineer. He earned his bachelor of science degree in nuclear engineering from Purdue University and a PhD in material science from the University of Michigan. Crumm is an advisor at Augment Ventures and Entrepreneur in Residence with the University of Michigan Center for Entrepreneurship and a lecturer on entrepreneurship topics within the College of Engineering Graduate program.

### Jean Redfield

President & CEO

NextEnergy

[jeanr@nextenergy.org](mailto:jeanr@nextenergy.org)



Jean Redfield is President and CEO at NextEnergy. Redfield previously served as the company’s Vice President, Public Policy Programs, leading public-sector initiatives. Her experience includes multiple leadership roles at DTE Energy as well as consulting roles at McKinsey and Company. Her work has primarily involved strategy development, leading major change initiatives and supporting companies as they transform through major dislocations in their respective industries. She has worked in various industries (investment banking, chemicals, aerospace/defense, pharmaceutical and biotech start-ups, and energy) in the United States, Europe, Brazil, India, and China. She has also served as co-owner and CFO of Fordsell Machine Products, a precision machine products company, from 1994 to the present. Redfield holds a B.A. in biology from Washington University, St. Louis, a B.S. in civil engineering from the University of Memphis, and an M.B.A. from the Wharton School, University of Pennsylvania.

### Tom Teynor

Chief Operation Officer

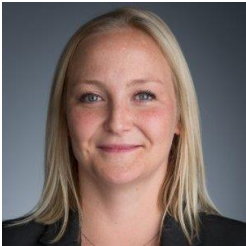

Ascent360

[Tomteynor@gmail.com](mailto:Tomteynor@gmail.com)



Mr. Teynor is the Chief Executive Officer of Coolerado, a green technology company founded in 2004. Coolerado designs, manufactures and markets super-energy-efficient air conditioning systems for light commercial use, based on its proprietary, patented and proven technology. Customer energy savings as much as 90% have been recorded with this cost-effective technology. Coolerado products are currently operating in 40 countries worldwide. Mr. Teynor joined Coolerado in 2011, and is responsible for the overall strategic direction and long-term growth. He brings almost 20 years of experience growing businesses in the software, financial services, and internet services industries. Mr. Teynor held senior leadership positions at Wolters Kluwer Financial Services, Pitney Bowes, and Wells Fargo Bank. He also serves on the board of TopLine federal credit union and served as the Chair of the finance committee. Mr. Teynor received both his Bachelor of Business Administration and MBA degrees from the University of St. Thomas in Minnesota.

## Cohort 5 Adjunct

<p><b>Erin Beaumont</b> NREL Licensing Executive <a href="mailto:Erin.Beaumont@nrel.gov">Erin.Beaumont@nrel.gov</a></p> 	<p>Erin joined NREL in 2015 as a licensing executive responsible for the commercialization of NREL's buildings and energy integration, energy storage, electrochromics, concentrating solar power, wind, and geothermal portfolios. Prior to joining NREL, Erin spent a number of years as an innovation manager at the University of New Mexico where she managed and commercialized a portfolio of early-stage, engineering, and physical science-related inventions, including licensing and startup formation. Erin holds a Master of Public Administration degree focused on public budgeting and a Bachelor of Science in chemical engineering from the University of New Mexico.</p>
<p><b>Sally Hatcher</b> Co-Founder – Mbio Diagnostics <a href="mailto:sally.c.hatcher@gmail.com">sally.c.hatcher@gmail.com</a></p> 	<p>Sally Hatcher, Esq. is a serial entrepreneur, advisor and board member. She co-founded and was President of two companies, including Precision Photonics, a laser &amp; opto-electronics design and manufacturing company. Starting in the garage, the company shipped high-volume product to China, and grew to a 50+ person, highly profitable venture before selling for a great multiple. Her second company, MBio Diagnostics, focuses on point-of-care medical and animal diagnostics, using laser-based waveguide systems to detect up to 80 biomarkers at once. Recently, Sally spent a year as President/COO of a Kindara, a women's health company, where she shipped the first hardware product (a connected device to generate revenue off a free app) and gained ISO 13485, CE mark, FDA Class II, FCC and HC/ICC marks. Sally's business and law background comes from her time as a consultant with McKinsey &amp; Co. and an Assistant Attorney General for Colorado. She sits on several boards and is active in environmental and women's issues.</p>

## Energy I-Corps Program Team

<p><b>Jennifer Ramsey</b> Energy I-Corps Program Director <a href="mailto:Jennifer.ramsey@nrel.gov">Jennifer.ramsey@nrel.gov</a> 954-937-6335</p>	<p><b>Shelly Curtiss</b> Deputy Director Colorado Cleantech Industries Association <a href="mailto:shelly@coloradocleantech.com">shelly@coloradocleantech.com</a> 303-332-9707</p>
<p><b>Kristin Clary</b> Energy I-Corps Program Manager <a href="mailto:Kristin.clary@nrel.gov">Kristin.clary@nrel.gov</a> 303-275-3088</p>	<p><b>J.A. Colantonio</b> Energy I-Corps Program Coordinator and Teaching Assistant <a href="mailto:JA.Colantonio@nrel.gov">JA.Colantonio@nrel.gov</a> 303-384-3751</p>

## Pre-Program Team Preparation

*The Energy I-Corps program follows a very demanding schedule from Kickoff to Graduation, but a bit of preparation beforehand can help prepare you for success. **The following items should be addressed *before* the program kickoff on February 15th:***

- **Technology Transfer Coordination Session** – Meet with your Tech Transfer/Commercial Deployment Office to discuss the status of your IP and the potential pathways for commercialization in the context of your participation of the Energy I-Corps Program.
- **Competitive Analysis** – Teams should arrive having at least a general knowledge of who the other players are in their proposed market.
- **LaunchPad Central** - Login information for each team will be provided in advance of program kickoff. Log-in to LaunchPad Central and familiarize yourself with the tool.
- **BMC/Customer Discovery Videos** - There are many videos in the resource library in LPC; you can save yourself time during the program by watching some ahead of time. At a minimum, watch the Pre-Planning videos listed in Customer Discovery Best Practices module in the Course Videos section in LPC before the first webinar.
- **Webinars** - There will be a pre-program webinar conducted on February 15, 2017. This webinar will provide valuable information to teams as they prepare and team **attendance is required in order to participate in the program.**

## Wednesday, February 15 (Webinar)

### Assignment

#### Videos:

- Customer Discovery Best Practices: Pre-Planning 1 and 2
- Customer Discovery Best Practices: Interviews 1 and 2
- Customer Discovery Best Practices: Asking the Right Questions
- Lecture 1.5A: Business Models and Customer Development (all)

#### Reading:

- “Why the Lean Start-Up Changes Everything” by Steve Blank, *Harvard Business Review*  
<https://hbr.org/2013/05/why-the-lean-start-up-changes-everything>

(You may not be thinking about a start-up at this point, but this article will highlight the Lean LaunchPad methodology and the Customer Discovery process that will be utilized in the Energy I-Corps curriculum)

#### Recommended Reading:

- **Business Model Generation:** Pages: 14-42, Defining a Business Model and The Nine Components of a Business Model Canvas

#### Other:

- Review complete syllabus
- Technology Check - Log into LaunchPad Central
- Complete Baseline Survey

## Detailed Schedule

**12:00 – 2:00 pm MST**

12:00 - 12:15 pm	Program Introduction	Introductions and Welcome to Energy I-Corps! Program Goals & Expectations - What does Energy I-Corps "Success" look like? What Commercialization Pathways are available to my team upon completion of the program?
12:15 - 1:00 pm	Info Session	Voices of Experience - RF Tag Team from PNNL will share their experiences from Energy I-Corps Cohort #4. Q&A Session will follow.
1:00 - 1:30 pm	Lecture	Introduction to Value Proposition and the Customer Discovery Process - What do you do and why do you do it? Who cares and for whom are you creating value? What pain are you solving or gain are you providing? What customer need are you satisfying? VP works hand in hand with who your customers are; this is the "product-market-fit." So who are your potential customers and why do they need your technology or service? So what is customer discovery? It's time to set up interviews! What questions do you ask? Session includes program expectations for setting up and conducting customer discovery interviews.
1:30 - 1:45 pm	LPC Overview and Demo	LPC Overview and Demo
1:45 - 2:00 pm	Info Session	Looking Ahead to Day One - Expectations for arrival in Golden.



# Energy I-Corps Cohort 5

February 21 - 24, 2016

Program Kickoff - Golden, CO

## Tuesday, February 21 – Day 1

### Assignment

#### Videos:

- Lecture 1.5B: Business Models and Customer Development (all)
- Lecture 2: Value Proposition
- Lecture 3: Customer Segments

#### Recommended Reading:

- **The Startup Owner's Manual:** Chapter 3 – An Introduction to Customer Discovery
- **The Startup Owner's Manual:** Market Size Checklist (p. 472)

#### Other:

- Conduct Two (2) “test” interviews prior to arrival on Day One. These interviews can be conducted on colleagues, your Tech Transfer Office, even a friend or family member. Enter the interview information in LPC. The intent is to get a bit of practice in before conducting actual Customer Discovery interviews and to get used to entering interviews into LPC.
- Line up at least Five (5) Customer Discovery interviews for your “Out of the Building” time in Golden on Day 2
- Develop the first iteration of your Business Model Canvas in preparation for your first presentation; you can expect several iterations over the course of the program. There is a PPT template under the Resource Hub in LPC that you may use for your presentations. Be sure to also populate the BMC inside of your team page in LPC.
- Start to identify your market size (TAM/SAM) in LPC under your Team Profile (initial best guess - this will likely change over the course of the program).
- Propose hypotheses to test your customer segments and value propositions.
- Get ready to get out of the building!

**\*\*Your first presentation is due on Tuesday MORNING at 7:00 a.m. MST**

## Tuesday, February 21 – Day 1

### Detailed Course Schedule

**\*\*REMINDER – Your presentation for Wednesday, February 22 is due in LaunchPad Central by 7:00am**

8:00 - 9:00 am	Breakfast	
9:00 - 9:30 am	Program Kickoff	Welcome to Energy I-Corps! - Faculty & Staff Introductions. Program overview and expectations.
9:30-10:50 am	Team Presentations	6 Teams - 8 minutes each, 5 minutes Q&A - Presentation on technology and team introductions - Where are you in your technology readiness?
10:50 - 11:00 am	Break	
11:00 - 12:30 pm	Team Presentations	7 Teams - 8 minutes each, 5 minutes Q&A - Technical Presentation
12:30 - 1:30 pm	Lunch	Guest Speakers - NREL Energy I-Corps Cohort 4 teams - How to Survive Energy I-Corps
1:30 - 2:00 pm	Lecture	Business Model Canvas (BMC) and the Lean LaunchPad Methodology (LLP) - What is a BMC and how is it used in the Lean Launchpad Methodology? What are the 9 parts of the BMC? Setting the stage for using this process over the course of the program.
2:00 - 2:30 pm	Lecture	BMC - Value Proposition - What is your product or service? What value do you deliver to the customer and how is it better/different than what is already in the market? Why will people want what you're offering? Who is the competition and how does your customer view these competitive offerings? What makes your offering unique?
2:30 - 3:30 pm	Breakout	BMC Workshop/VP Workshop
3:30 - 3:45 pm	Break	
3:45 - 4:15 pm	Lecture	Customer Segments 1.0 - Who is the customer? Why do they buy? What is your customer archetype or persona? How can you reach them? How do you decide which customer segments to pursue?
4:15 - 4:45 pm	Breakout	Customer Segments Workshop - How to Talk to Different Customer Personas.
4:45 - 5:45 pm	Guest Speaker	Andrew Maxey – President of Vartega
5:45 - 6:15	Dinner break	
6:15 - 7:00 pm	Workshop	Interviewing 1.0 - You're headed "out of the building" tomorrow. What are you trying to find out? How will you call on people you don't know. How can you get the most out of people you do. Expectations, speed, tempo, logistics, commitments. How do I interview? How is an interview different than a sales call?
7:00 - 7:30 pm	Breakout	EL, IM, PI Breakout Session
7:30 - 9:00 pm	Office Hours	Meet one-on-one with faculty

## Wednesday, February 22 – Day 2

### Assignment

*Presentation #2 due today by 7:00 a.m. in LaunchPad Central.*

#### Recommended Readings:

- **The Startup Owner's Manual:** Chapter 4 – Customer Discovery: State Your Business Model Hypothesis (Note that hypotheses for physical products often differ from web/mobile products. Where the hypothesis issues differ, each is described separately. Depending on your product/service, please read the sections in this chapter most applicable to your project. Look at page 465 for a breakdown of Chapter 4.)

#### Presentation:

- Slide Presentation 2 (see slide presentation guide for details)

#### Other:

- Be prepared to meet at least 5 customers today.
- Following your meetings, **update LPC** with meeting notes, revised value propositions, validated or invalidated hypotheses, mentor engagement notes, etc.
- Schedule time to meet with someone from the instructor team during Office Hours tonight

## Wednesday, February 22 – Day 2

### Detailed Course Schedule

**\*\*REMINDER – Your presentation for Thursday, February 23 due in LaunchPad Central by 7:00 am**

7:15 - 8:00 am	Breakfast	
8:00 - 8:45 am	Lecture	Commercialization in the DOE Laboratory Environment - How do we commercialize DOE lab technologies and why? How does Energy I-Corps fit within that framework and how can this experience impact your research?
8:45 - 10:00 am	Team Presentations	6 Teams (8 minutes each) (3 minutes faculty)
10:00 - 10:15 am	Break	
10:15 - 11:45 am	Team Presentations	7 Teams (8 minutes each) (3 minutes faculty)
11:45-12:00 pm	Lecture	Interview recap
12:00 PM	Lunch	Pick-up Boxed Lunch
12:00-5:15 pm	Customer Discovery	Customer Discovery - Get out of the building!
5:15-6:00pm	Group Discussion	Interviewing 2.0 - So you were out of the building...how did it go? Lessons Learned. Which interview strategies worked and which didn't? How will you make changes for tomorrow's interviews?
6:00-7:00 pm	Dinner	
7:00-8:00 pm	Workshop	Develop interviewing skills/approach, meet the other Energy I-Corps teams and practice your elevator pitch and networking skills
8:00-9:30 pm	Office Hours	Meet one-on-one with faculty

## Thursday, February 23 – Day 3

### Assignment

*Presentation #3 due in LaunchPad Central by 7:00 am on February 23.*

#### Videos:

- Lecture 4: Channels

#### Recommended Reading:

- **Business Model Generation:** Customer Insights (p. 126-133)
- **The Startup Owner's Manual:** Chapter 5 - Customer Discovery: Get Out of the Building to Test the Problem; "Do People Care?"
- **The Startup Owner's Manual -**
  - Channels Hypothesis: 98-103
  - Customer Validation: 296-303
  - Sales Channel Roadmap: 332-337

#### Presentation:

- Slide Presentation 3 (see slide presentation guide for details)

#### Other:

- Be prepared to meet at least 3-5 customers today.
- Following your meetings, **update LPC** with meeting notes, revised value propositions, validated or invalidated hypotheses, mentor engagement notes, etc.
- Prepare for Industry Night One-on-One Meetings (list will be provided in advance)

## Thursday, February 23 – Day 3

### Detailed Course Schedule

7:15 - 8:00am	Breakfast	
8:00 - 9:00 am	Team Presentations	3 Teams - 2 Tracks (10 minutes each)(5 minutes faculty)
9:00 - 9:15 am	Break	
9:15 - 10:15 am	Team Presentations	3 Teams/4 Teams - 2 Tracks (10 minutes each)(5 minutes faculty)
10:15- 10:30 am	Break	
10:30 - 11:00 am	Lecture	The Energy Industry Ecosystem - What drives decision making in the energy industry? How do you determine the ecosystem for your product/service? How do you identify potential customers within that ecosystem? What is a value chain?
11:00 - 11:30 am	Breakout	Ecosystem Workshop
11:30 - 12:15 pm	Lecture	BMC Module - Customer Channels - What is a channel? Physical versus virtual channels. Direct channels, indirect channels, OEM. Business to Business (B2B) versus Business to Consumer (B2C) channels.
12:15 PM	Lunch	Pick up boxed lunch
12:15 - 4:30 pm	Customer Discovery	Customer Discovery - Get out of the building!
4:45 PM		Reconvene at The Table Mountain Inn-Arapahoe room (PROMPTLY @ 4:45)
5:00 - 7:30 pm	Special Session	Industry Night - Energy community one-on-ones. Teams will be paired with industry executives who can provide business and technology specific feedback. Each team will receive a schedule of meetings for this session.
7:30 - 9:00 pm	Office Hours (at Table Mountain Inn)	Meet one-on-one with faculty

**\*\*REMINDER – Your presentation for Friday, February 24 is due in LaunchPad Central by 7:00 am**

## Friday, February 24 – Day 4

### Assignment

*Presentation due in LaunchPad Central by 7:00 am on February 24*

#### Videos:

- Lecture 7 - Partners

#### Recommended Reading:

- **The Startup Owner's Manual:** Chapter 6 - Get Out of The Building and Test the Product Solution
- **The Startup Owner's Manual:** Checklists
  - Partners (p. 484)

#### Presentation:

- Slide Presentation 4 (see slide presentation guide for details)

#### Other:

- Plan your strategy for maintaining customer discovery momentum over the next six weeks.

## Friday, February 24 – Day 4

### Detailed Course Schedule

7:45 - 8:30 am	Breakfast	
8:30 - 9:30 am	Team Presentations	3 Teams - 2 Tracks(10 minutes each)(5 minutes faculty)
9:30 - 9:45 am	Break	
9:45 - 10:45 am	Team Presentations	3 Teams/4 Teams - 2 Tracks (10 minutes each)(5 minutes faculty)
10:45 - 11:00 am	Break	
11:00 - 11:45 am	Lecture	BMC Module - Industry Partners - Who are your potential partners? Why have partners? What types of relationships do you want or need to have with your partners? This is a two-way street...what's in it for your partner? Session will also address partnership opportunities as they relate specifically to the national laboratory environment.
11:45 - 12:15 pm	Breakout	Breakout Industry Partners
12:15 - 1:30 pm	Lunch w/ Panel Discussion	Lunch w/ Panel Session - Maintaining your momentum and keeping your focus over the next six weeks. Time management when you're back at your lab and facing competing priorities.
1:30- 2:00pm	Closing Session	Closing Remarks and Send-off
2:00 - 5:00pm	Customer Discovery	Get Out of the Building! - End of Kickoff Session (Teams may stay in Golden and conduct interviews or depart for airport)



## Wednesday, March 1 – Week 2 (Webinar)

### Assignment and Detailed Schedule

**Prepare presentation for first WebEx call:** you will have 10 minutes to present

*Presentation due in LaunchPad Central by 10:00am MT on March 1.*

#### Videos:

- Customer Discovery Best Practices:
  - Death by Demo 1
  - Death by Demo 2
  - Assuming You Know
  - Death by PowerPoint

#### Recommended Reading:

- **Business Model Generation:** Ideation (p. 134-145)
- **Business Model Generation:** Visual Thinking (p. 146-159)
- **The Startup Owner's Manual:** Checklists
  - Market Size (p. 472)
  - Capture Market Knowledge (p. 492)

#### Presentation:

- Slide Presentation 5 (see slide presentation guide for details)

#### Other:

- Customer Discovery - Continue to interview 10-15 customers during the week

Wednesday, March 1			
12:00 - 1:30 pm	Team Presentations	6/7 Teams - 2 Tracks (10 minutes each)	All Instructors, All Teams

## Wednesday, March 8 – Week 3 (Webinar)

### Assignment and Detailed Schedule

*Presentation due in LaunchPad Central by 10:00am MT on March 8.*

#### Videos:

- Lecture 6 – Revenue Model

#### Recommended Reading:

- **Business Model Generation:** (Review) Revenue Streams (p. 30-31)
- **Startup Owner's Manual:** Checklist
  - Revenue and Pricing Hypothesis (p. 485)

#### Presentation:

- Slide Presentation 6 (see slide presentation guide for details)

#### Other:

- Customer Discovery - Continue to interview 10-15 customers during the week

Wednesday, March 8			
12:00-1:30 pm	Team Presentations	Partners Homework Assignment (5 minutes each)	All Teams
1:30-2:00pm	Lecture	Revenue Models - What is a revenue model? What types of revenue streams are there for the energy industry?	Aaron Crumm

## Wednesday, March 15 – Week 4 (Webinar)

### Assignment and Detailed Schedule

*Presentation due in LaunchPad Central by 10:00am MT on March 15.*

#### Videos:

- Lecture 5: Customer Relationships
- Customer Discovery Best Practices:
  - Understanding the Problem
  - Customers Lie
  - The Distracted Customer
  - Engaging the Customer
  - Customer Empathy

#### Recommended Reading:

- **Business Model Generation: (Review)** Customer Relationships (p. 28-29)
- **The Startup Owner's Manual: Checklists**
  - Customer Relationships (p. 480-481)
  - Gain Customer Understanding (p. 491)

#### Presentation:

- Slide Presentation 7 (see slide presentation guide for details)

#### Other:

- Customer Discovery - Continue to interview 10-15 customers during the week

Wednesday, March 15			
12:00 - 1:30 pm	Team Presentations	6/7 Teams - 2 Tracks (10 minutes each)	All Instructors, All Teams

## Wednesday, March 22 – Week 5 (Webinar)

### Assignment and Detailed Schedule

Presentation due in LaunchPad Central by 10:00am MT on March 22.

#### Videos:

- Customer Discovery Best Practices:
  - The User, the Buyer, and the Saboteur
  - The Multi-Person Interview
  - B to B to C
  - Existing vs. New Markets:
- Re-watch Lecture 6 – Revenue Model

#### Recommended Reading:

- **Business Model Generation:** Strategy
  - Business Model Environment (p. 200-211)
  - Evaluating Business Models (p. 212-225)

#### Presentation:

- Slide Presentation 8 (see slide presentation guide for details)

#### Other:

- Customer Discovery - Continue to interview 10-15 customers during the week

Wednesday, March 22			
12:00 - 1:30 pm	Team Presentations	Revenue Homework 6/7 Teams - 2 Tracks (5 minutes each) - Revenue Models - What is a revenue model? What types of revenue streams are there for the energy industry?	All Instructors, All Teams

## Wednesday, March 29 – Week 6 (Webinar)

### Assignment and Detailed Schedule

Presentation due in LaunchPad Central by 10:00am MT on March 29.

#### Videos:

- Lecture 8: Resources, Activities & Costs
- Customer Discovery Best Practices:
  - Public Interviews
  - Extracting Insight from Data
  - Getting the MVP Right
  - Pay attention to Outliers
  - The Other 85%

#### Recommended Reading:

- **Business Model Generation:** Strategy
  - Business Model Perspective on Blue Ocean Strategy (p. 226-231)
  - Managing Multiple Business Models (p. 232-239)
- **Startup Owner's Manual:** Chapter 7 - Verify the Business Model and Pivot or Proceed
- **Startup Owner's Manual:** Checklist
  - Update the Business Model (p. 493)

#### Presentation:

No presentation today. All teams to meet with the Tech Office that provided funding for the team.

#### Other:

- Customer Discovery - Continue to interview 10-15 customers during the week
- Prepare for Capstone and Graduation Presentations

The week of March 27th-31st			
	Tech Office Meetings	All teams to meet with the Tech Office that provided funding for the team. Choose a time this week that works for your team and Tech Office.	All Teams

## Wednesday, April 5 – Week 7 (Webinar)

Presentation due in LaunchPad Central by 10:00am MT on April 5.

### Presentation:

- Slide Presentation 9 (see slide presentation guide for details)

Wednesday, April 5			
12:00 - 1:30 pm	Team Presentations	6/7 Teams - 2 Tracks (10 minutes each)	All Instructors, All Teams

## Wednesday, April 12 – Week 8 (Webinar)

### Videos:

- Lecture 8: Resources, Activities & Costs
  - Metrics That Matter

### Presentation:

- No Presentation: Lecture - Metrics that Matter - What does your customer care about? Savings? Speed? Reliability? Safety? Does your Value Proposition include the right metrics?

Wednesday, April 12			
12:00 - 1:30 pm	Lecture	Lecture - Metrics that Matter - What does your customer care about? Savings? Speed? Reliability? Safety? Does your Value Proposition include the right metrics?	Sally Hatcher

# Tuesday, April 18 – Closing Session, Day 1

## Assignment

**NO presentation due today**

**Videos:**

- Review Cohorts 1, 2, 3 & 4 Team videos in preparation for your final presentations
- Lecture 8: Resources, Activities & Costs
  - Resources Activities Costs
  - Four Critical Resources
  - Financial Resources
  - Financial Resources Quiz
  - Financial Resources Quiz Solution
  - Human Resources
  - Qualified Employees And Culture
  - Intellectual Property Overview
  - Intellectual Property Detailed
  - Intellectual Property
  - Intellectual Property Solution
  - Costs

**Recommended Reading:**

- **Business Model Generation:** Storytelling (p. 172-179)
- **Startup Owner's Manual:** Chapter 12 - Customer Validation: Pivot or Proceed

**Presentation:**

- No presentation today

**Other:**

- Schedule Office Hours with Faculty to prepare for final two presentations

## Tuesday, April 18 – Closing Session, Day 1

### Detailed Course Schedule

7:45 - 8:30 am	Breakfast	
8:30 - 8:45 am	Info Session	Welcome Back and Opening Remarks
8:45 - 9:30 am	Lecture	IP Basic Training - Patents, Copyright, Trademarks, Protection Strategies, Requirements, Writing a non-confidential summary
9:30 - 10:30 am	Panel Discussion	Lab Partnerships - What makes a good partner? How do you establish that relationship and turn it into a valuable partnership?
10:30 - 10:45am	Break	
10:45 - 11:15 am	Lecture	Customer Relationships - How do you create end user demand? How does it differ on the web versus other channels? Evangelism vs. existing need or category? General Marketing, Sales Funnel, etc. How does demand creation differ in a multi-sided market? Get keep grow.
11:15 - 11:45 am	Breakout	Workshop Customer Relationships
11:45 am - 12:45 pm	Lunch	
12:45 - 1:30 pm	Lecture	Landmines in Energy Development and Deployment - Barriers to Entry: Policy, Regulation, Certifications, Safety, NIMBY
1:30 - 2:30 pm	Lecture	Capital 101/Federal Funding Opportunities - Highlights lab funding options/opportunities and capital market funding path. Includes Q&A portion.
2:30 - 3:30 pm	Lecture	Cost - What are the most important costs inherent in an energy business model? Which key resources are most expensive? Which key activities are most expensive? Is your business more Cost Driven (leanest cost structure, low price value proposition, maximum automation, extensive outsourcing) or Value Driven (focused on value creation, premium value proposition).
3:30 - 3:45 pm	Break	
3:45 - 4:15 pm	Lecture	Building the Team - (Guest Speakers) What does it take to build a great startup team? Who are the key players and personalities that you need to grow your team? What if your team isn't working out?
4:15 - 5:15 pm	Panel Discussion	Discussion with startup veterans.
5:15 - 7:30 pm	Team Time	This time is provided to allow teams to work on their final presentations and get faculty feedback. Customer Discovery interviews may also be conducted during this time. Dinner on your own.
7:30 - 9:00 pm	Office hours	Meet one-on-one with faculty.



## Wednesday, April 19 – Closing Session, Day 2

### Assignment

#### Presentation:

- Slide Presentation 10, Capstone Presentation (see slide presentation guide for details)

### Detailed Course Schedule

7:30 - 8:15am	Breakfast	
8:15 - 9:45 am	Capstone Presentations	6 Teams - 14 minutes each (10 min presentation, 4 min faculty remarks)
9:45 - 10:00 am	Break	Break
10:00 - 11:45	Capstone Presentations	7 Teams - 14 minutes each (10 min presentation, 4 min faculty remarks)
11:45 - 12:15 pm	Lecture	Capital 201: Private Capital and Investor Expectations - What are investor's expectations? What constitutes ROI? Who are the constituents that will be analyzing ROI?
12:15 - 1:00 pm	Lunch	
1:00 - 2:00 pm	Panel Session	Investor Panel - What are investors looking for in your pitch? How do you know which type of capital is right for your business? Learn from experienced investment professionals.
1:30-2:00 pm	Break	
2:00- 5:30 pm	Office Hours	Meet one-on-one with faculty.
5:30 - 7:00 pm	Team Time	This time is provided to allow teams to work on their final presentations. Customer Discovery interviews may also be conducted during this time. Dinner on your own.

# Thursday, April 20 – Graduation Day (Week 10)

## Assignment

### Presentation:

- Slide Presentation 11, Graduation Presentation (see slide presentation guide for details)

### Other:

- Team Video (Samples will be provided. See guidance below)

### 2-Minutes Lessons Learned Videos

- This is not a demonstration of your technology. Tell us your Energy I-Corps story. No need to get high-tech! Feel free to shoot the video with your iPhone.
- We want to hear about your journey through the Energy I-Corps program as it relates to your research, your thoughts about commercialization, entrepreneurship and customer discovery. Did Energy I-Corps change how you think about your research or interact with the community both inside and outside of the laboratory environment?
- Take pictures and videos as you progress through the program. Share your successes and your challenges. This is the story of Energy I-Corps, not your BMC.
- Get creative! There is no required format.
- **Sample videos** from Cohort 1 are available for your reference at [https://drive.google.com/folderview?id=0B1d1Y4yUsv8meHZPektYeFlaelU&usp=sharing\\_eid&ts=575887d2&tid=0B0t85eKdM5oDLUFMcF8yd2hKNmc](https://drive.google.com/folderview?id=0B1d1Y4yUsv8meHZPektYeFlaelU&usp=sharing_eid&ts=575887d2&tid=0B0t85eKdM5oDLUFMcF8yd2hKNmc)
- **Sample videos** from Cohort 2 are available for your reference at [https://drive.google.com/folderview?id=0B0t85eKdM5oDRmlUaVg2S1o1dWs&usp=sharing\\_eid&ts=575887d2&tid=0B0t85eKdM5oDLUFMcF8yd2hKNmc](https://drive.google.com/folderview?id=0B0t85eKdM5oDRmlUaVg2S1o1dWs&usp=sharing_eid&ts=575887d2&tid=0B0t85eKdM5oDLUFMcF8yd2hKNmc)
- **Sample videos** from Cohort 3 are available for your reference at <https://drive.google.com/drive/folders/0B1d1Y4yUsv8mbEdqLWVTWDIQaTQ?usp=sharing>

### Suggestions

- Introduce yourselves and the lab you represent. Pan the camera around your office or research space so that we can see where you work.
- What scientific disciplines are you working in?
- When you started Energy I-Corps, what was the most important thing you thought you would have to do to be successful in the program? How do you feel about that now?
- Thinking back across the program, who was the most interesting customer you met and where did you meet them? What happened to make them the most interesting customer?
- Now that Energy I-Corps is over, what was the most surprising thing you learned during the program?

## Thursday, April 20, Graduation Day

### Detailed Course Schedule

7:45 - 8:30am	Breakfast	
8:30 - 10:00 am	Final Team Presentations	6 Teams - 15 minutes each (1-2 min video, 10 min presentation, 5 min faculty remarks)
10:00 - 10:15 am	Break	Break
10:15 - 12:00 pm	Final Team Presentations	7 Teams - 15 minutes each (1-2 min video, 10 min presentation, 5 min faculty remarks)
12:00 - 12:30 am	Guest Speaker	Guest Speaker (DOE)
12:30 - 1:30 pm	Lunch	
1:30 - 2:00 pm	Panel Session	Where do you go from here? Next steps on defining and developing your commercialization plan and funding strategy. Q&A session.
2:00 - 2:30 pm		Graduation!